

**Abstract of Disclosure**

A superconducting fault current controller/current controller employs a superconducting-shielded core reactor (SSCR) with a variable impedance in a secondary circuit to control current in a primary circuit such as an electrical distribution system.

5 In a second embodiment, a variable current source is employed in a secondary circuit of an SSCR to control current in the primary circuit. In a third embodiment, both a variable impedance in one secondary circuit and a variable current source in a second circuit of an SSCR are employed for separate and independent control of current in the primary circuit.

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